

WO 00/31265

1 / 8

PCT/FR99/02941 - 1

Species	Position	Consensus	Human	Grenouille	Carpe α	Carpe γ																																										
-M	Y	K	A	S	C	C	L	L	F	I	G	F	L	N	P	L	L	S	L	P	L	D	S	R	E	I	S	F	Q	L	S	A	P	H	E	D	A	R	L	T	P	E	E	L	E	R		
-M	S	K	L	F	C	C	L	I	L	A	G	S	F	C	S	F	R	S	L	P	I	V	P	S	K	G	S	L	R	L	S	E	S	A	L	D	F	G	D	L	K	S	W	D	D	E		
M	C	N	L	L	S	F	S	V	L	L	L	S	C	T	H	L	V	A	H	P	V	T	D	T	A	D	M	T	Y	S	G	P	D	S	V	E	E	A	G	G	V	S	-	P	D	D	F	
M	C	N	L	L	L	S	G	S	V	L	L	L	S	C	S	H	L	L	A	H	P	V	T	D	T	A	D	M	T	Y	S	G	P	D	S	V	E	E	A	G	G	V	N	-	P	D	D	F

A	S	L	L	Q	I	P	E	M	L	G	-	-	A	E	R	G	-	-	D	I	L	R	K	A	D	S	T	N	I	F	N	P	R	G	N	L	R	K	F	Q	D	P				
T	R	L	L	R	N	L	P	M	F	V	D	K	E	A	E	R	D	A	E	I	F	S	K	E	G	F	G	L	D	A	Y	N	-	M	D	D	K	E	E	L	F	D	K	H	P	R
A	V	S	D	L	N	O	L	L	Q	R	A	A	V	V	E	Y	S	-	-	P	L	L	S	R	E	N	I	K	V	P	G	Q	I	P	K	E	A	L	R	E	L	L	E	K	P	Y
S	V	S	D	L	N	E	H	L	Q	R	A	A	V	A	G	Y	S	-	-	P	L	F	S	Q	E	N	I	K	V	P	G	Q	I	P	K	E	A	L	R	E	L	L	E	K	P	Y

	N	I	L	L	S	H	L	A	R	I	W	K	P	Y	K	K	R	E	T	-	P	D	C	F	W	K	Y	G	V	124		
Humain	I	S	L	L	S	R	L	Q	S	K	D	R	K	Q	F	K	K	R	A	G	N	L	S	E	C	F	W	K	Y	G	V	127
Grenouille	R	L	I	P	P	S	G	L	W	G	S	R	R	Q	F	R	K	R	G	G	-	G	A	D	C	F	W	K	Y	G	V	126
Carpe α	R	L	I	P	P	R	G	L	W	G	S	R	R	Q	F	R	K	R	G	G	-	G	A	D	C	F	W	K	Y	G	V	125
Carpe γ																																

★ ★ ★ ← UROTENSINE II →

FIGURE 1

2/8

CCAAGAAGGAAGCCGTCTATCTTGTGGCGATC

ATG TAT AAG CTG GCC TCC TGC TGT TTG CTT TTC ATA GGA TTC TTA
Met Tyr Lys Leu Ala Ser Cys Cys Leu Leu Phe Ile Gly Phe Leu

PEPTIDE SIGNAL

AAT CCT CTC TTA TCT CTT CCT CTC CTT GAC TCC AGG GAA ATA TCC
Asn Pro Leu Leu Ser Leu Pro Leu Leu Asp Ser Arg Glu Ile Ser

TTT CAA CTC TCA GCA CCT CAT GAA GAC GCG CGC TTA ACT CCG GAG
Phe Gln Leu Ser Ala Pro His Glu Asp Ala Arg Leu Thr Pro Glu

PRO-SEGMENT

GAG CTA GAA AGA GCT TCC CTT CTA CAG ATA CTG CCA GAG ATG CTG
Glu Leu Glu Arg Ala Ser Leu Leu Gln Ile Leu Pro Glu Met Leu

GGT GCA GAA AGA GGG GAT ATT CTC AGG AAA GCA GAC TCA AGT ACC
Gly Ala Glu Arg Gly Asp Ile Leu Arg Lys Ala Asp Ser Ser Thr

AAC ATT TTT AAC CCA AGA GGA AAT TTG AGA AAG TTT CAG GAT TTC
Asn Ile Phe Asn Pro Arg Gly Asn Leu Arg Lys Phe Gln Asp Phe

TCT GGA CAA GAT CCT AAC ATT TTA CTG AGT CAT CTT TTG GCC AGA
Ser Gly Gln Asp Pro Asn Ile Leu Leu Ser His Leu Leu Ala Arg

ATC TGG AAA CCA TAC AAG AAA CGT GAG ACT CCT GAT TGC TTC TGG
Ile Trp Lys Pro Tyr Lys Lys Arg Glu Thr Pro Asp Cys Phe Trp

UROTENSINE II

AAA TAC TGT GTC TGA
Lys Tyr Cys Val ***

AGTGAAATAAGCATCTGTTAGTCAGCTCAGAAACACCCATCTTAGAATATGAAAAATAACACA
ATGCTTGATTTGAAAACAGTGTGGAGAAAACTAGGCAAACCTACACCCTGTTTCATTGTTACCT
GGAAATAAATCCTCTAT

FIGURE 2

3/8

5' CGG AGC AGA CAC CCA GCC AGA CTT CTT CCC GTC GTC ATG GAC AGG GTG CCC TTC
Met Asp Arg Val Pro Phe
4.....

TGC TGC CTG CTC TTC GTA GGA CTC CTG AAT CCA CTC CTG TCT TTT CCC GTC ACG
Cys Cys Leu Leu Phe Val Gly Leu Leu Asn Pro Leu Leu Ser Phe Pro Val Thr
.....

peptide signal

GAC ACT GGT GAA ATG TCT CTT CAG CTT CCA GTG CTT GAG GAA AAT GCT CTT CGG
Asp Thr Gly Glu Met Ser Leu Gln Leu Pro Val Leu Glu Glu Asn Ala Leu Arg
.....

GCT CTG GAG GAG CTG GAG AGG ACT GCC CTC CTG CAG ACG CTG CGC CAG ACC GTG
Ala Leu Glu Glu Leu Glu Arg Thr Ala Leu Leu Gln Thr Leu Arg Gln Thr Val
.....

pro-segment

GGC ACA GAA GCA GAG GGA AGC CTT GGC CAG GCA GAT CCC AGT GCC GAG ACT CCC
Gly Thr Glu Ala Glu Gly Ser Leu Gly Gln Ala Asp Pro Ser Ala Glu Thr Pro
.....

ACT CCA AGG GGA AGC TTG AGG AAG GCT CTC ACT GGG CAA GAT TCT AAC ACT GTA
Thr Pro Arg Gly Ser Leu Arg Lys Ala Leu Thr Gly Gln Asp Ser Asn Thr Val
.....

CTG AGC CGT CTT TTG GCG AGA ACC AGG AAA CAA CGT AAG CAA CAC GGG ACT GCC
Leu Ser Arg Leu Leu Ala Arg Thr Arg Lys Gln Arg Lys Gln His Gly Thr Ala
.....

CCA GAA TGC TTC TGG AAG TAC TGC ATT TCA AGA GAG ACG TCT CCT CAG AAC CAT
Pro Glu Cys Phe Trp Lys Tyr Cys Ile ***
.....

UrotensineII

CAC TTC AGG AAA CTA AAG AGC ACA TGC TTG AAG AAA AAT CGT GCC AAC AAC GCC
.....

CCG TTC TCC ACT ATG AGA AAT AAA CCC TCT ATG TTT CTC AAC T 3'

FIGURE 3

4/8

5' CCA GAG CAG ACG CCC AGA CGG ACT TCT CGC CGC ATC ATG GAC AGG GTG CCC TTC
Met Asp Arg Val Pro Phe

TGC TGC CTG CTC TTC ATA GGA CTT CTG AAT CCA CTG CTG TCC CTT CCC GTC ACG
Cys Cys Leu Leu Phe Ile Gly Leu Leu Asn Pro Leu Leu Ser Leu Pro Val Thr

peptide signal

GAC ACT GGT GAG AGG ACT CTT CAG CTT CCA GTG CTT GAG GAA GAC GCT CTT CGG
Asp Thr Gly Glu Arg Thr Leu Gln Leu Pro Val Leu Glu Glu Asp Ala Leu Arg

GCT CTG GAG GAG CTG GAG AGG ATG GCC CTC CTG CAG ACC CTG CGT CAG ACC ATG
Ala Leu Glu Glu Leu Glu Arg Met Ala Leu Leu Gln Thr Leu Arg Gln Thr Met

pro-segment

GGC ACG GAA GCA GGG GAG AGC CCT GGA GAA GCA GGT CCC AGC ACT GAG ACT CCC
Gly Thr Glu Ala Gly Glu Ser Pro Gly Glu Ala Gly Pro Ser Thr Glu Thr Pro

ACT CCA CGG GGA AGC ATG AGG AAG GCT TTC GCT GGG CAA AAT TCT AAC ACT GTA
Thr Pro Arg Gly Ser Met Arg Lys Ala Phe Ala Gly Gln Asn Ser Asn Thr Val

CTG AGT CGT CTC TTG GCA AGA ACC AGG AAA CAA CAT AAG CAA CAC GGG GCT GCC
Leu Ser Arg Leu Leu Ala Arg Thr Arg Lys Gln His Lys Gln His Gly Ala Ala

CCA GAG TGC TTC TGG AAA TAC TGC ATT TGA GGA GAC ACA AGC GCC CGT TGG TCT
Pro Glu Cys Phe Trp Lys Tyr Cys Ile ***

Urotensine II

CTC AGA ACC ATT ACA TTC AGG AAA CGG GCA GAG CAG ATG CTT GAA GCA AAA TCA

CGC TAA CGA CGC CTT GTT CTT CAT TAT GAG AAA TAA ATC CTC TAT GTT TCT CA 3'

FIGURE 4

5/8

A

1 2 3 4 5 6 7 8

A

B

C

D

E

F

G

H

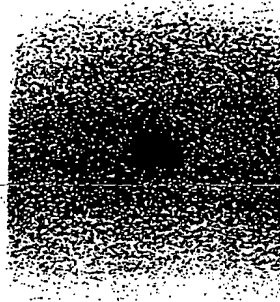
	1	2	3	4	5	6	7	8
A	cerveau entier	amygdale	noyau caudé	cervelet	cortex cérébral	lobe frontal	hippocampe	<i>medulla oblongata</i>
B	lobe occipital	putamen	<i>locus niger</i>	lobe temporal	thalamus	noyau sous-thalamique	moelle épinière	-
C	cœur	aorte	muscle squelettique	colon	vessie	utérus	prostate	estomac
D	testicules	ovaires	pancréas	hypophyse	glande surrénale	thyroïde	glande salivaire	glande mammaire
E	rein	foie	intestin grêle	rate	thymus	leucocyte périphérique	ganglion lymphatique	moelle osseuse
F	appendice	poumon	trachée	placenta	-	-	-	-
G	cerveau foetal	cœur foetal	rein foetal	foie foetal	rate foetale	thymus foetal	poumon foetal	-
H	ARN total de levure 100 ng	ARNt de levure 100 ng	ARNr d' <i>E. coli</i> 100 ng	ADN d' <i>E. coli</i> 100 ng	poly r(A) 100 ng	ADN C ₀ t1 humain	ADN humain 100 ng	ADN humain 500 ng

FIGURE 5.1

6/8

Bmoelle
épineière

725 pb →

**C**

(1)



(2)

FIGURE 5.2

	E	-	T	P	-	D	C	F	W	K	Y	C	V
Humain	A	G	N	L	S	E	.	.	.	.	.	.	.
Grenouille	A	G	.	A	-	E	.	.	.	.	.	.	.
Goujon	A	G	N	S	-	E	.	.	.	.	.	.	.
Truite	G	G	N	A	-	E	.	.	.	.	.	.	.
Poisson ventouse A	G	S	G	T	-	E	.	.	.	.	.	.	.
Poisson ventouse B	G	S	N	A	-	E	.	.	.	.	.	.	.
Carpe α	G	G	G	T	-	E	.	.	.	.	.	.	.
Carpe $\beta 1$	G	G	N	T	-	E	.	.	.	.	.	.	.
Carpe $\beta 2$	G	S	N	T	-	E	.	.	.	.	.	.	.
Carpe γ	G	G	G	A	-	E	.	.	.	.	.	.	.
Flet	A	G	.	T	-	E	.	.	.	.	.	.	.
Esturgeon	-	G	S	T	S	E	.	.	.	.	.	.	.
Poisson spatule	-	G	S	T	S	E	.	.	.	.	.	.	.
Raie	N	N	F	-	S	.	.	.	.	.	.	.	.
Roussette	N	N	F	-	S	.	.	.	.	.	.	.	.
Lamproie	N	N	F	.	S	.	.	.	.	.	.	.	.

FIGURE 6

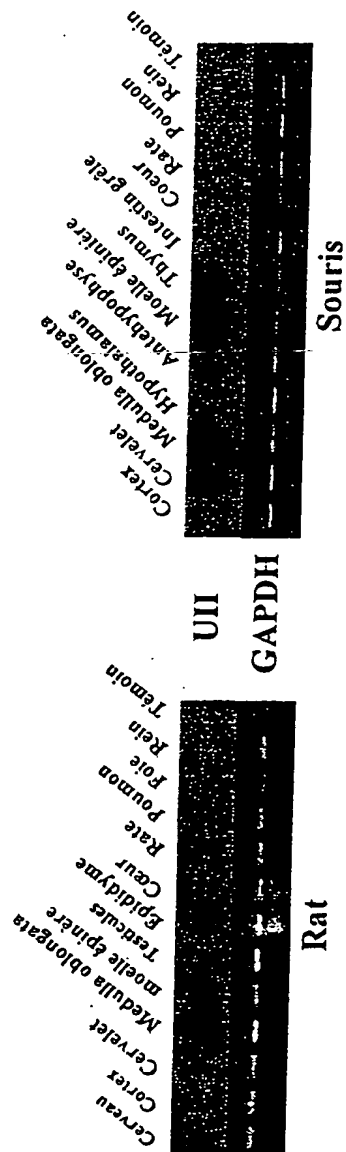


FIGURE 7

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2
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